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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/064,856	08/23/2002	John Bruno	00100.02.0038 (020038T)	4595
29153	7590	06/25/2004	EXAMINER	
ATI TECHNOLOGIES, INC. C/O VEDDER PRICE KAUFMAN & KAMMHOLZ 222 N. LASALLE STREET CHICAGO, IL 60601			HA, NATHAN W	
			ART UNIT	PAPER NUMBER
			2814	

DATE MAILED: 06/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/064,856

Applicant(s)

BRUNO, JOHN

Examiner

Nathan W. Ha

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

Cancellation of the claims 17-20 is acknowledged.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 3-4, 9-12, and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Melo et al. (US 6,243,817, newly cited, hereinafter, Melo.)

In regard to claims 1, 10 and 12, in fig. 2, Melo discloses an IC comprising:

a standard dimension substrate, not shown, where the components disposed there on;

an information router 14, for example; and

system memory 18 operative to store system instructions also integrated on the substrate and in electrical communication with the router via at least one of a plurality of electrical leads associated with the substrate, wherein system instructions may be stored and retrieved from the system memory through the router.

In regard to claim 2 the router is disposed within an application specific die; see fig. 1.

In regard to claim 3, Melo further discloses a graphics controller 20 disposed within the application specific IC die in conjunction with the information router. See also, fig.1.

In regard to claim 4, Melo further discloses the graphics memory is on the substrate and electrically communicate with the graphics controller. See fig. 1.

In regard to claims 9 and 16, wherein the information router within the application specific integrated circuit die is capable of being operably coupled to a central processing unit across a printed circuit board. See fig.1.

In regard to claim 11, wherein the die further includes a graphics controller 20 in conjunction with the north bridge 14; see fig. 1.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 5-8 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jeddeloh as applied to claims 1, 3-4, 9-12, and 16 above, and further in view of Barrett, US 2003/0183934.

In regard to claims 5-8 and 13-15, Jeddeloh discloses all of the claimed limitation as mentioned above except the die coupled to the bottom using wire bonds and flip chip technology.

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It should be noted that the wire bonds and flip chip technology are widely used in the art of semiconductor packaging since they provide an impact package, therefore, increase the surface area of the package. For instance, Barrett disclose an analogous package includes semiconductor dies, substrate, and all of the circuits are formed on the substrate, for example, Graphics accelerator 520, memory 540, processor 510. The package is put together by using wire bonds and flip chip technology in order to reduce the package size and cost when more than one die is needed; see [0010].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the flip-chip technology as taught by Barrett in order to reduce the package size and cost when more than one die is needed.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

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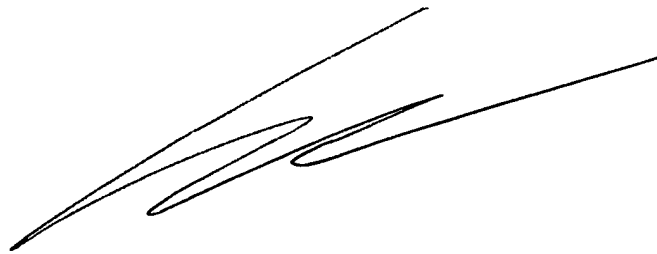
shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nathan W. Ha whose telephone number is (571) 272-1707. The examiner can normally be reached on M-TH 8:00-7:00(EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (571) 272-1705. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Nathan Ha  
June 21, 2004



LONG PHAM  
PRIMARY EXAMINER